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10/628,231	07/29/2003	Narayan L. Gehlot	29250-000927/US	4764

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EXAMINER
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SANTIAGO CORDERO, MARIVELISSE

ART UNIT	PAPER NUMBER
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2617

DATE MAILED: 04/07/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	Application No.	Applicant(s)	
	10/628,231	GEHLOT ET AL.	
	Examiner	Art Unit	
	Marivelisse Santiago-Cordero	2617	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 13 March 2006.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-3, 5-22 and 24-38 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-3, 5-22 and 24-38 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 3/13/06 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

### **DETAILED ACTION**

1. Claims 1-3, 5-22, and 24-38 are pending. Claims 4 and 23 were cancelled.

#### ***Drawings***

2. The drawing corrections were received on 3/13/06. These drawings are not acceptable. Regarding the Replacement Sheet of Fig. 2, this drawing is informal. Figure 2 resembles a Marked-Up Copy of Corrected Drawings instead of a Replacement Sheet. New formal drawings are required.

#### ***Response to Arguments***

3. Applicant's arguments with respect to claims 1-3, 5-22, and 24-38 have been considered but are moot in view of the new ground(s) of rejection.
4. However, Applicant's arguments filed on 3/13/06 regarding the Cohen et al. reference (Patent No.: US 6,463,265) have been fully considered but they are not persuasive.

Cohen does disclose three-dimensional terrestrial data (col. 7, lines 24-25) as claimed. Cohen's spatial coordinates are in spherical form or equivalent. Accordingly, the rejection regarding the Cohen reference is maintained.

#### ***Claim Rejections - 35 USC § 102***

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

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6. Claims 1-3, 5, 16-17, 19-22, 24, 35-36, and 38 are rejected under 35 U.S.C. 102(b) as being anticipated by Schipper et al. (hereinafter "Schipper"; cited in form PTO-892, paper no. 20051118).

Regarding claim 1, Schipper discloses a method for controlling handoffs in a wireless communication system, comprising the steps of: receiving a location vector associated with a mobile unit (col. 5, lines 32-36), wherein the location vector comprises three dimensional terrestrial data (col. 5, line 61 through col. 6, line 2); and determining whether to perform a handoff of the mobile unit based on the received vector (col. 3, lines 50-67; col. 7, lines 25-40).

Regarding claim 2, Schipper discloses the method of claim 1, further comprising the steps of: transmitting the location vector to the mobile unit (col. 5, lines 62-36), wherein the vector includes location and time coordinates (col. 5, lines 62-36); and receiving a response from the mobile unit based on the transmitted vector (col. 7, lines 25-40).

Regarding claim 3, Schipper discloses the method of claim 1, wherein the location vector comprises Global Positioning System (GPS) data (Abstract: col. 21, lines 3-15).

Regarding claim 5, Schipper discloses the method of claim 2, wherein the determining step further comprises the step of determining whether to perform the handoff based on the received response (col. 7, lines 32-40).

Regarding claim 16, Schipper discloses the method of claim 1, wherein the received vector further comprises time information (col. 5, lines 32-36).

Regarding claim 17, Schipper discloses the method as in claim 1 further comprising the step of generating the vector at the mobile unit (col. 5, lines 32-36).

Regarding claim 19, Schipper discloses the method as in claim 1 further comprising generating the vector at a GPS satellite (Abstract).

Regarding claim 20, Schipper discloses these limitations as stated above for claim 1.

Regarding claim 21, Schipper discloses these limitations as stated above for claim 2.

Regarding claim 22, Schipper discloses these limitations as stated above for claim 3.

Regarding claim 24, Schipper discloses these limitations as stated above for claim 5.

Regarding claim 35, Schipper discloses these limitations as stated above for claim 16.

Regarding claim 36, Schipper discloses these limitations as stated above for claim 17.

Regarding claim 38 Schipper discloses these limitations as stated above for claim 19.

7. Claims 1, 3, 16-20, 22, and 35-38 are rejected under 35 U.S.C. 102(e) as being anticipated by Cohen et al. (hereinafter "Cohen"; cited in form PTO-892, paper no. 20051118).

Regarding claim 1, Cohen discloses a method for controlling handoffs in a wireless communication system, comprising the steps of: receiving a location vector associated with a mobile unit (col. 6, lines 24-40; col. 8, lines 12-34), wherein the location vector comprises three dimensional terrestrial data (col. 7, lines 24-26); and determining whether to perform a handoff of the mobile unit based on the received vector (col. 6, lines 24-40; col. 8, lines 12-34).

Regarding claim 3, Cohen discloses the method of claim 1, wherein the location vector comprises Global Positioning System (GPS) data (col. 6, lines 26-31).

Regarding claim 16, Cohen discloses the method of claim 1, wherein the received vector further comprises time information (Fig. 2).

Regarding claim 17, Cohen discloses the method as in claim 1 further comprising the step of generating the vector at the mobile unit (Fig. 2).

Regarding claim 18, Cohen discloses the method as in claim 1 further comprising the step of generating the vector at a base station (col. 6, lines 24-40).

Regarding claim 19, Cohen discloses the method as in claim 1 further comprising generating the vector at a GPS satellite (col. 6, lines 24-40).

Regarding claim 20, Cohen discloses these limitations as stated above for claim 1.

Regarding claim 22, Cohen discloses these limitations as stated above for claim 3.

Regarding claim 35, Cohen discloses these limitations as stated above for claim 16.

Regarding claim 36, Cohen discloses these limitations as stated above for claim 17.

Regarding claim 37, Cohen discloses these limitations as stated above for claim 18.

Regarding claim 38, Cohen discloses these limitations as stated above for claim 19.

### ***Claim Rejections - 35 USC § 103***

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

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10. Claims 1, 15, 20, and 34 are rejected under 35 U.S.C. 103(a) as being unpatentable over Marveli et al. (hereinafter "Marveli"; cited in form PTO-892, paper no. 20051118) in view of Schipper.

Regarding claim 1, Marveli discloses a method for controlling handoffs in a wireless communication system, comprising the steps of: receiving a location vector associated with a mobile unit (Abstract; col. 7, lines 7-15); and determining whether to perform a handoff of the mobile unit based on the received vector (col. 2, lines 52-56; col. 5, lines 60-63; col. 7, lines 7-15).

Marveli fails to disclose wherein the location vector comprises three-dimensional terrestrial data.

However, in the same field of endeavor, Schipper discloses wherein the location vector comprises three-dimensional terrestrial data (col. 5, line 61 through col. 6, line 2).

Therefore, it would have been obvious to one of ordinary skill in this art at the time of invention by applicant to modify the location vector of Marveli to incorporate three-dimensional terrestrial data as suggested by Schipper because it would be more reliable and more specific than two-dimensional systems, in addition to increasing the accuracy and precision.

Regarding claim 15, in the obvious combination, Marveli discloses further comprising the steps of: receiving a plurality of received vectors associated with the mobile unit (Abstract; col. 7, lines 7-31); estimating future location coordinates for the mobile unit based on the plurality of received vectors (Abstract; col. 7, lines 7-31); and retrieving a geographical condition from a database based on the estimated future location coordinates (col. 7, lines 22-31).

Regarding claim 20, the limitations are rejected with the same grounds and for the same reasons and motivations stated above for claim 1.

Regarding claim 34, the limitations are rejected with the same grounds and for the same reasons and motivations stated above for claim 15.

11. Claims 1-2, 5, 20-21, and 24 are rejected under as being 35 U.S.C. 103(a) as being unpatentable over Matsumoto et al. (hereinafter "Matsumoto"; cited in form PTO-892, paper no. 20051118) in view of Schipper.

Regarding claim 1, Matsumoto discloses a method for controlling handoffs in a wireless communication system, comprising the steps of: receiving a location vector associated with a mobile unit (page 2, paragraph [0031]); and determining whether to perform a handoff of the mobile unit based on the received vector (page 2, paragraphs [0031]-[0033]).

Matsumoto fails to disclose wherein the location vector comprises three-dimensional terrestrial data.

However, in the same field of endeavor, Schipper discloses wherein the location vector comprises three-dimensional terrestrial data (col. 5, line 61 through col. 6, line 2).

Therefore, it would have been obvious to one of ordinary skill in this art at the time of invention by applicant to modify the location vector of Matsumoto to incorporate three-dimensional terrestrial data as suggested by Schipper because it would be more reliable and more specific than two-dimensional systems, in addition to increasing the accuracy and precision.

Regarding claim 2, in the obvious combination, Matsumoto discloses further comprising the steps of: transmitting the location vector to the mobile unit (page 2, paragraph [0031]; page 3, paragraph [0041]), wherein the vector includes location and time coordinates (page 2, paragraph



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[0031]); and receiving a response from the mobile unit based on the transmitted vector (page 2, paragraph [0031]; page 3, paragraph [0041]).

Regarding claim 5, in the obvious combination, Matsumoto discloses wherein the determining step further comprises the step of determining whether to perform the handoff based on the received response (page 2, paragraph [0031]; page 3, paragraph [0045]).

Regarding claim 20, the limitations are rejected with the same grounds and for the same reasons and motivations stated above for claim 1.

Regarding claim 21, the limitations are rejected with the same grounds and for the same reasons and motivations stated above for claim 2.

Regarding claim 24, the limitations are rejected with the same grounds and for the same reasons and motivations stated above for claim 5.

12. Claims 1, 3, 6-9, 11-14, 16-17, 19-20, 22, 25-28, 30-33, 35-36, and 38 are rejected under 35 U.S.C. 103(a) as being obvious over Garceran et al. (hereinafter "Garceran"; EP 1081972) in view of Schipper.

Regarding claim 1, Garceran discloses a method for controlling handoffs in a wireless communication system, comprising the steps of: receiving a location vector associated with a mobile unit (page 6, paragraphs [0021]-[0022]); and determining whether to perform a handoff of the mobile unit based on the received vector (page 6, paragraphs [0021]-[0022]; page 7, paragraph [0027]; page 10, paragraph [0041]).

Garceran fails to disclose wherein the location vector comprises three-dimensional terrestrial data.

However, in the same field of endeavor, Schipper discloses wherein the location vector comprises three-dimensional terrestrial data (col. 5, line 61 through col. 6, line 2).

Therefore, it would have been obvious to one of ordinary skill in this art at the time of invention by applicant to modify the location vector of Garceran to incorporate three-dimensional terrestrial data as suggested by Schipper because it would be more reliable and more specific than two-dimensional systems, in addition to increasing the accuracy and precision.

Regarding claim 3, in the obvious combination, Garceran discloses wherein the location vector comprises Global Positioning System (GPS) data (page 10, paragraph [0041]).

Regarding claim 6, in the obvious combination, Garceran discloses wherein the determining step further comprises the step of calculating a magnitude of the received vector, wherein the magnitude corresponds to a coverage area of a base station vector (page 6, paragraphs [0021]-[0022]).

Regarding claim 7, in the obvious combination, Garceran discloses wherein the determining step further comprises the steps of: receiving one or more magnitudes corresponding to coverage areas of one or more other base stations (page 6, paragraphs [0021]-[0022]); comparing the calculated magnitude to the received magnitudes (page 6, paragraphs [0021]-[0022]); and determining that the handoff is necessary when one of the received magnitudes is less than the calculated magnitude (page 6, paragraphs [0021]-[0022]).

Regarding claim 8, in the obvious combination, Garceran discloses further comprising the steps of: receiving a plurality of received vectors associated with the mobile unit (page 6, paragraphs [0021]-[0022]); calculating a magnitude of each of the plurality of received vectors (page 6, paragraphs [0021]-[0022]); combining the calculated magnitudes into a combined

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magnitude (page 6, paragraphs [0021]-[0022]); and determining whether the handoff is necessary based on the combined magnitude (page 6, paragraphs [0021]-[0022]).

Regarding claim 9, in the obvious combination, Garceran discloses wherein the determining step further comprises the step of: receiving one or more magnitudes from one or more other base stations (page 6, paragraphs [0021]-[0022]); comparing the combined magnitude to the received magnitudes (page 6, paragraphs [0021]-[0022]); and determining that a handoff is necessary when one of the received magnitudes is less than the combined magnitude (page 6, paragraphs [0021]-[0022]).

Regarding claim 11, in the obvious combination, Garceran discloses wherein the determining step further comprises the steps of: obtaining service quality data based on the received vector (page 2, paragraph [0005]; page 4, paragraph [0013]), wherein the service quality data includes at least one of an environmental and geographical condition related to a coverage area of a base station; and determining whether to perform the handoff based on the service quality data (page 2, paragraph [0005]; page 4, paragraph [0013]).

Regarding claim 12, in the obvious combination, Garceran discloses wherein the obtaining step further comprises the steps of: extracting at least one of a location and time coordinate from the received vector (page 2, paragraph [0005]; page 4, paragraph [0013]; page 8, paragraphs [0018]-[0019]); and retrieving the service quality data from a database based on the extracted information (page 2, paragraph [0005]; page 4, paragraph [0013]; page 8, paragraphs [0018]-[0019]).

Regarding claim 13, in the obvious combination, Garceran discloses wherein the retrieving step further comprises the step of: retrieving a geographical condition from the

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database based on location coordinates extracted from the received vector (page 8, paragraph [0032]), the retrieved geographical condition including at least one of: topographical data, structural data, and known reflection path (page 8, paragraph [0032]).

Regarding claim 14, in the obvious combination, Garceran discloses wherein the retrieving step further comprises the step of: retrieving an environmental condition from the database based on time information extracted from the received vector (page 4, paragraphs [0013] and [0015]), the environmental condition selected from the group consisting of at least: rain, wind, temperature and humidity (page 4, paragraphs [0013] and [0015]; note that weather inherently consists of at least: rain, wind, temperature, and humidity).

Regarding claim 16, in the obvious combination, Garceran discloses wherein the received vector further comprises time information (pages 3-4, paragraph [0010]).

Regarding claim 17, in the obvious combination, Garceran discloses further comprising the step of generating the vector at the mobile unit (page 6, paragraph [0021]).

Regarding claim 19, in the obvious combination, Garceran discloses further comprising generating the vector at a GPS satellite (page 5, paragraph [0018]).

Regarding claim 20, the limitations are rejected with the same grounds and form the same reasons and motivations stated above for claim 1.

Regarding claim 22, the limitations are rejected with the same grounds and form the same reasons and motivations stated above for claim 3.

Regarding claim 25, the limitations are rejected with the same grounds and form the same reasons and motivations stated above for claim 6.

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Regarding claim 26, the limitations are rejected with the same grounds and form the same reasons and motivations stated above for claim 7.

Regarding claim 27, the limitations are rejected with the same grounds and form the same reasons and motivations stated above for claim 8.

Regarding claim 28, the limitations are rejected with the same grounds and form the same reasons and motivations stated above for claim 9.

Regarding claim 30, the limitations are rejected with the same grounds and form the same reasons and motivations stated above for claim 11.

Regarding claim 31, the limitations are rejected with the same grounds and form the same reasons and motivations stated above for claim 12.

Regarding claim 32, the limitations are rejected with the same grounds and form the same reasons and motivations stated above for claim 13.

Regarding claim 33, the limitations are rejected with the same grounds and form the same reasons and motivations stated above for claim 14.

Regarding claim 35, the limitations are rejected with the same grounds and form the same reasons and motivations stated above for claim 16.

Regarding claim 36, the limitations are rejected with the same grounds and form the same reasons and motivations stated above for claim 17.

Regarding claim 38, the limitations are rejected with the same grounds and form the same reasons and motivations stated above for claim 19.

13. Claims 10 and 29 are rejected under 35 U.S.C. 103(a) as being unpatentable over Cohen in view of Jolma (cited in form PTO-892, paper no. 20051118).

Regarding claim 10, Cohen discloses the method of claim 1, further comprising the steps of: receiving a plurality of vectors associated with the mobile unit (col. 6, lines 24-40). Cohen fails to disclose detecting multipath propagation when at least two of the plurality of received vectors include identical location and time coordinates; and performing the handoff when multipath propagation is detected.

However, in a method for controlling handoffs in a wireless communication system (col. 1, lines 8-14), Jolma discloses detecting multipath propagation when at least two of the plurality of received vectors include identical location and time coordinates (from col. 1, line 66 through col. 2, line 6); and performing the handoff when multipath propagation is detected (from col. 1, line 66 through col. 2, line 6).

Therefore, it would have been obvious to one of ordinary skill in this art at the time of invention by applicant to detect multipath propagation when at least two of the plurality of received vectors of Cohen include identical location and time coordinates; and performing the handoff when multipath propagation is detected as suggested by Jolma.

One of ordinary skill in this art would have been motivated to detect multipath propagation when at least two of the plurality of received vectors include identical location and time coordinates; and performing the handoff when multipath propagation is detected because typically signals between a base station and mobile station travel by several different paths between the transmitter and receiver due to different delays in propagation time caused by signals reflecting from surrounding surfaces (Jolma: from col. 1, line 66 through col. 2, line 6).

Regarding claim 29, the limitations are rejected with the same grounds and for the same reasons and motivations stated above for claim 10.

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*Conclusion*

14. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

15. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Marivelisse Santiago-Cordero whose telephone number is (571) 272-7839. The examiner can normally be reached on Monday through Friday from 7:30am to 4:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Lester Kincaid can be reached on (571) 272-7922. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

MSC 3/20/06  
MSC

  
**LESTER G. KINCAID**  
**SUPERVISORY PRIMARY EXAMINER**